AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Previously Presented) Within a grid control for displaying a user interface comprising a table that is a visual representation of a database and that enables a user to read and interact with content of the database, wherein the grid control comprises a plurality of cell objects organized as a plurality of row objects and one or more column objects, wherein for each of the plurality of row objects, one or more user interface characteristics are stored in one or more row characteristic objects, a method of reducing memory requirements for the grid control by sharing a single row characteristic object between two or more row objects, the method comprising acts of:

creating a first row object that comprises one or more first cell objects, the first row object for use in organizing the one or more first cell objects and data associated with the one or more first cell objects for presentation within the grid control;

creating a second row object that comprises one or more second cell objects, the second row object for use in organizing the one or more second cell objects and data associated with the one or more second cell objects for presentation within the grid control;

creating a row characteristic object for use in determining how the data associated with the one or more first and second cell objects should be presented within the grid control;

creating an index to link the row characteristic object to the first and second row objects such that the row characteristic object is shared between the first and second row objects;

storing the data associated with each of the one or more first and second cell objects separately from the first and second cell objects where characteristic information for each corresponding cell object is located; and

maintaining a state list with state information that is redundant with state information maintained for each row.

2.   (Original) The method of claim 1, wherein the row characteristic object comprises presentation information for use in presenting the data associated with the one or more first and second cell objects, and wherein the presentation information is one or more of a row height, row styles or row states.

3.   (Previously Presented) The method of claim 2, wherein the presentation information includes said row styles, and wherein the row styles include one or more of a row color, data color, data alignment, data wrapping, data font name, data font size or data font style.

4.   (Previously Presented) The method of claim 2, wherein the presentation information includes said row states, and wherein the row states include one or more of a read-only, selected, resizable, frozen, enabled or visible, and wherein these states can be either turned on or off.

5.   (Previously Presented) The method of claim 1, further comprising the act of:

        creating one or more column objects associated with the one or more first and second cell objects, wherein a cell characteristic for each of the one or more first and second cell objects for use in presenting the data associated with the one or more first and second cell objects can be determined by either the row characteristic object or a column characteristic object.

6.   (Original) The method of claim 5, wherein the row characteristic object comprises presentation information for use in presenting the data associated with the one or more first and second cell objects, and wherein the presentation information is one or more of a row height, row styles or row states.

7.   (Previously Presented) The method of claim 5, wherein the cell characteristic includes said column characteristic object, and wherein the column characteristic object comprises presentation information for use in presenting the data associated with the one or more first and second cell objects, and wherein the presentation information is one or more of a column width, column styles or column states.

8.   (Previously Presented) The method of claim 6, wherein the presentation information includes said row styles, and wherein the row styles include one or more of a row color, data color, data alignment, data wrapping, data font name, data font size or data font style.

9.   (Previously Presented) The method of claim 6, wherein the presentation information includes said row states, and wherein the row states include one or more of a read-only, selected, resizable, frozen, enabled or visible, and wherein these states can be either turned on or off.

10.   (Original) The method of claim 1, further comprising the act of:
    creating a states list that comprises first and second states for the first and second row objects, respectively.

11.   (Original) The method of claim 10, wherein the first and second row states include one or more of a read-only, selected, resizable, frozen, enabled or visible, and wherein these states can be either turned on or off.

12.   (Original) The method of claim 5, further comprising the act of:
    creating a states list that comprises first and second states for the first and second row objects, respectively.

13.   (Original) The method of claim 12, wherein the first and second row states include one or more of a read-only, selected, resizable, frozen, enabled or visible, and wherein these states can be either turned on or off.

14. (Previously Presented) Within a grid control for displaying a user interface comprising a table that is a visual representation of a database and that enables a user to read and interact with content of the database, wherein the grid control comprises a plurality of cell objects organized as a plurality of row objects and one or more column objects, wherein for each of the plurality of row objects, one or more user interface characteristics are stored in one or more row characteristic objects, a method of reducing memory requirements for the grid control by sharing a single row characteristic object between two or more row objects, the method comprising steps for:

organizing one or more first cell objects and data associated with the one or more first cell objects within a first row object for presentation within the grid control;

organizing one or more second cell objects and data associated with the one or more second cell objects within a second row object for presentation within the grid control;

sharing a row characteristic object between the first and second row objects, wherein the row characteristic object is used in determining how the data associated with the one or more first and second cell objects should be presented within the grid control, and wherein an index is used to link the row characteristic object to the first row object and the second row object;

storing the data associated with each of the one or more first and second cell objects separately from the first and second cell objects where characteristic information for each corresponding cell object is located; and

maintaining a state list with state information that is redundant with state information maintained for each row.

15. (Original) The method of claim 14, wherein the row characteristic object comprises presentation information for use in presenting the data associated with the one or more first and second cell objects, and wherein the presentation information is one or more of a row height, row styles or row states.

16. (Previously Presented) The method of claim 15, wherein the presentation information includes said row styles, and wherein the row styles include one or more of a row color, data color, data alignment, data wrapping, data font name, data font size or data font style.

17. (Previously Presented) The method of claim 15, wherein the presentation information includes said row states, and wherein the row states include one or more of a read-only, selected, resizable, frozen, enabled or visible, and wherein these states can be either turned on or off.

18. (Previously Presented) The method of claim 14, wherein the step for sharing comprises the act of:

creating one or more column objects associated with the one or more first and second cell objects, wherein a cell characteristic for each of the one or more first and second cell objects for use in presenting the data associated with the one or more first and second cell objects can be determined by either the row characteristic object or a column characteristic object.

19. (Original) The method of claim 18, wherein the row characteristic object comprises presentation information for use in presenting the data associated with the one or more first and second cell objects, and wherein the presentation information is one or more of a row height, row styles or row states.

20. (Previously Presented) The method of claim 18, wherein the cell characteristic includes said column characteristic object, and wherein the column characteristic object comprises presentation information for use in presenting the data associated with the one or more first and second cell objects, and wherein the presentation information is one or more of a column width, column styles or column states.

21. (Previously Presented) The method of claim 20, wherein the presentation information includes said column styles, and wherein the column styles include one or more of a row color, data color, data alignment, data wrapping, data font name, data font size or data font style.

22. (Previously Presented) The method of claim 20, wherein the presentation information includes said column states, and wherein the column states include one or more of a read-only, selected, resizable, frozen, enabled or visible, and wherein these states can be either turned on or off.

23. (Original) The method of claim 14, wherein the step for sharing comprises the act of:

creating a states list that comprises first and second states for the first and second row objects, respectively.

24. (Original) The method of claim 23, wherein the first and second row states include one or more of a read-only, selected, resizable, frozen, enabled or visible, and wherein these states can be either turned on or off.

25. (Original) The method of claim 20, wherein the step for sharing comprises the act of:

creating a states list that comprises first and second states for the first and second row objects, respectively.

26. (Original) The method of claim 25, wherein the first and second row states include one or more of a read-only, selected, resizable, frozen, enabled or visible, and wherein these states can be either turned on or off.

27.   (Previously Presented) A computer program product for use within a grid control for displaying a user interface comprising a table that is a visual representation of a database and that enables a user to read and interact with content of the database, wherein the grid control comprises a plurality of cell objects organized as a plurality of row objects and one or more column objects, wherein for each of the plurality of row objects, one or more user interface characteristics are stored in one or more row characteristic objects, wherein the computer program product comprises one or more computer-readable media having computer-executable instructions for implementing a method of reducing memory requirements for the grid control by sharing a single row characteristic object between two or more row objects, the method comprising acts of:

creating a first row object that comprises one or more first cell objects, the first row object for use in organizing the one or more first cell objects and data associated with the one or more first cell objects for presentation within the grid control;

creating a second row object that comprises one or more second cell objects, the second row object for use in organizing the one or more second cell objects and data associated with the one or more second cell objects for presentation within the grid control;

creating a row characteristic object for use in determining how the data associated with the one or more first and second cell objects should be presented within the grid control;

creating an index to link the row characteristic object to the first and second row objects such that the row characteristic object is shared between the first and second row objects;

storing the data associated with each of the one or more first and second cell objects separately from the first and second cell objects where characteristic information for each corresponding cell object is located; and

maintaining a state list with state information that is redundant with state information maintained for each row.

28.   (Previously Presented) The computer program product of claim 27, wherein the row characteristic object comprises presentation information for use in presenting the data associated with the one or more first and second cell objects, and wherein the presentation information is one or more of a row height, row styles or row states.

29.   (Previously Presented) The computer program product of claim 28, wherein the method further comprises the act of:

creating one or more column objects associated with the one or more first and second cell objects, wherein a cell characteristic for each of the one or more first and second cell objects for use in presenting the data associated with the one or more first and second cell objects can be determined by either the row characteristic object or a column characteristic object.

30.   (Previously Presented) The computer program product of claim 29, wherein the cell characteristic includes said column characteristic object, and wherein the column characteristic object comprises presentation information for use in presenting the data associated with the one or more first and second cell objects, and wherein the presentation information is one or more of a column width, column styles or column states.

31.   (Previously Presented) The computer program product of claim 27, wherein the method further comprises the act of:

creating a states list that comprises first and second states for the first and second row objects, respectively.

32.   (Previously Presented) A computer program product for use within a grid control for displaying a user interface comprising a table that is a visual representation of a database and that enables a user to read and interact with content of the database, wherein the grid control comprises a plurality of cell objects organized as a plurality of row objects and one or more column objects, wherein for each of the plurality of row objects, one or more user interface characteristics are stored in one or more row characteristic objects, wherein the computer program product comprises one or more computer-readable media having computer-executable instructions for implementing a method of reducing memory requirements for the grid control by sharing a single row characteristic object between two or more row objects, the method comprising steps for:

organizing one or more first cell objects and data associated with the one or more first cell objects within a first row object for presentation within the grid control;

organizing one or more second cell objects and data associated with the one or more second cell objects within a second row object for presentation within the grid control;

sharing a row characteristic object between the first and second row objects, wherein the row characteristic object is used in determining how the data associated with the one or more first and second cell objects should be presented within the grid control, and wherein an index is used to link the row characteristic object to the first row object and the second row object;

storing the data associated with each of the one or more first and second cell objects separately from the first and second cell objects where characteristic information for each corresponding cell object is located; and

maintaining a state list with state information that is redundant with state information maintained for each row.

33.   (Previously Presented) The computer program product of claim 32, wherein the row characteristic object comprises presentation information for use in presenting the data associated with the one or more first and second cell objects, and wherein the presentation information is one or more of a row height, row styles or row states.

34.   (Previously Presented) The computer program product of claim 33, wherein the step for sharing comprises the act of:

creating one or more column objects associated with the one or more first and second cell objects, wherein a cell characteristic for each of the one or more first and second cell objects for use in presenting the data associated with the one or more first and second cell objects can be determined by either the row characteristic object or a column characteristic object.

35.   (Previously Presented) The computer program product of claim 34, wherein the cell characteristic includes said column characteristic object, and wherein the column characteristic object comprises presentation information for use in presenting the data associated with the one or more first and second cell objects, and wherein the presentation information is one or more of a column width, column styles or column states.

36.   (Previously Presented) The computer program product of claim 35, wherein the row states and column states include one or more of a read-only, selected, resizable, frozen, enabled or visible, and wherein these states can be either turned on or off.

37.   (Previously Presented) The computer program product of claim 32, wherein the step for sharing comprises the act of:

creating a states list that comprises first and second states for the first and second row objects, respectively.

38.   (Currently Amended) A computer program product with computer readable media carrying computer executable instructions that implements a grid control for displaying a user interface comprising a table that is a visual representation of a database and that enables a user to read and interact with content of the database, wherein the grid control comprises a plurality of cell objects organized as a plurality of row objects and one or more column objects, wherein for each of the plurality of row objects, one or more user interface characteristics are stored in one or more row characteristic objects, the computer program product used in reducing memory requirements for the grid control by sharing a single row characteristic object between a plurality row objects, the computer product comprising:

a first routine for creating a row characteristic object, wherein the row characteristic object includes user interface characteristics used in presenting data within one or more cells, and wherein the row characteristic object is associated with a particular row object;

a second routine for adding a row object to the grid control table, wherein the added row object shares the row characteristic object with the particular row object, which is compatible with characteristic information for all cell objects corresponding to the row object, such that the row characteristic object is used for presenting data within one or more cells of the added and particular rows, and wherein an index is created that links the row characteristic object to the added and particular row objects;

a routine for storing the data that is to be presented within the one or more cells separately from the cell objects where the characteristic information for each corresponding cell object is located; and

a routine for maintaining a state list with state information that is redundant with state information maintained for each row.

39.   (Original) The computer program product of claim 26, wherein the first routine uses one or more column characteristic objects for creating the row characteristic object.

40.   (Original) The computer program product of claim 26, wherein a states list is created that comprises states for the added row object.

41.   (Previously Presented)   A method as recited in claim 1, wherein the method further comprises determining whether a row can be shared.

42.   (Previously Presented)   A method as recited in claim 41, wherein determining whether a row can be shared includes determining whether each individual cell within a collection of cells for a row object can be deduced from an owning column and an owning row object.

43.   (Previously Presented)   A method as recited in claim 41, wherein determining whether a row can be shared includes determining whether characteristics of the cells for a row are compatible.

44.   (Cancelled)

45.   (Previously Presented)   A method as recited in claim 1, wherein the state list enables a state of a particular row having a shared row characteristic with another row characteristic of an other row to be changed without unsharing the row characteristics of the particular row and the other row.

46.   (Previously Presented)   A method as recited in claim 1, wherein the method further comprises unsharing a row that was previously shared through the link of the row characteristic object to the first and second row objects.

47.   (Previously Presented)   A method as recited in claim 46, wherein unsharing the row is initiated by a user request for an index to a row.

48.   (Previously Presented)   A method as recited in claim 46, wherein unsharing the row is initiated by a user request for a change to a characteristic of the row.